GYPSY MOTH SUPPRESSION PROJECT SUMMARY
at
Chesapeake Marshlands
National Wildlife Refuge Complex
April 29, 2003

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On April 29, 2003, approximately 800 acres at Chesapeake Marshlands National Wildlife Refuge Complex were aerially treated to reduce gypsy moth populations and to prevent defoliation. A single application of the biological insecticide Gypchek was applied at the rate of 4×10^{11} occlusion bodies per acre in a total formulation of 1 gallon per acre.

A rotary-winged aircraft equipped with a Differential Global Positioning System (DGPS) was used to apply the insecticide.

This report documents the spray equipment, insecticide, meteorological conditions, foliage and larval development, and spray coverage for the project. Treatment efficacy will be reported once defoliation surveys are conducted in June and egg masses surveys are completed this fall.

Aircraft and Spray Equipment

Contractor:	Helicopter Applicators, Inc.
Aircraft:	Bell UH-IH
FAA Number:	N658HA
Pilot:	Glenn Martin
DGPS Brand:	AG-NAV
Spray System:	Simplex
Nozzle Type:	AU 5000 Micronairs
Number of Nozzles:	8
Blade Angle:	35°
VRU Setting:	11
Application Rate:	128 ounces/acre
Boom Pressure:	30 psi
Air Speed:	85 mph
Swath Width:	150 feet
Flow Rate:	25.76 gpm (calculated) 25.88 gpm (actual)

Meteorological Conditions

Time	Temperature	Relative Humidity	Wind Speed	Wind Direction
0605	59°	83%	1 mph	SW
0643	61°	83%	Calm	---
0720	65°	72%	Calm	---
0749	67°	70%	2-3	SW
0840	67°	63%	3-5	SW
0907	68°	55%	3-5	SW

Foliage and Larval Development

Foliage Development		Larval Development
white oak	40%	100 % first instar
red oak	60%	(30% were late first instar)
swamp chestnut oak	60%	100% larval dispersal
willow oak	90%	

Spray Coverage

Based on observations made by personnel in the treatment blocks and by viewing the AG-NAV printouts (Appendix A), spray coverage was excellent. There were no significant skips in any of the treatment blocks and very little area outside of the treatment blocks were sprayed.

Narrative

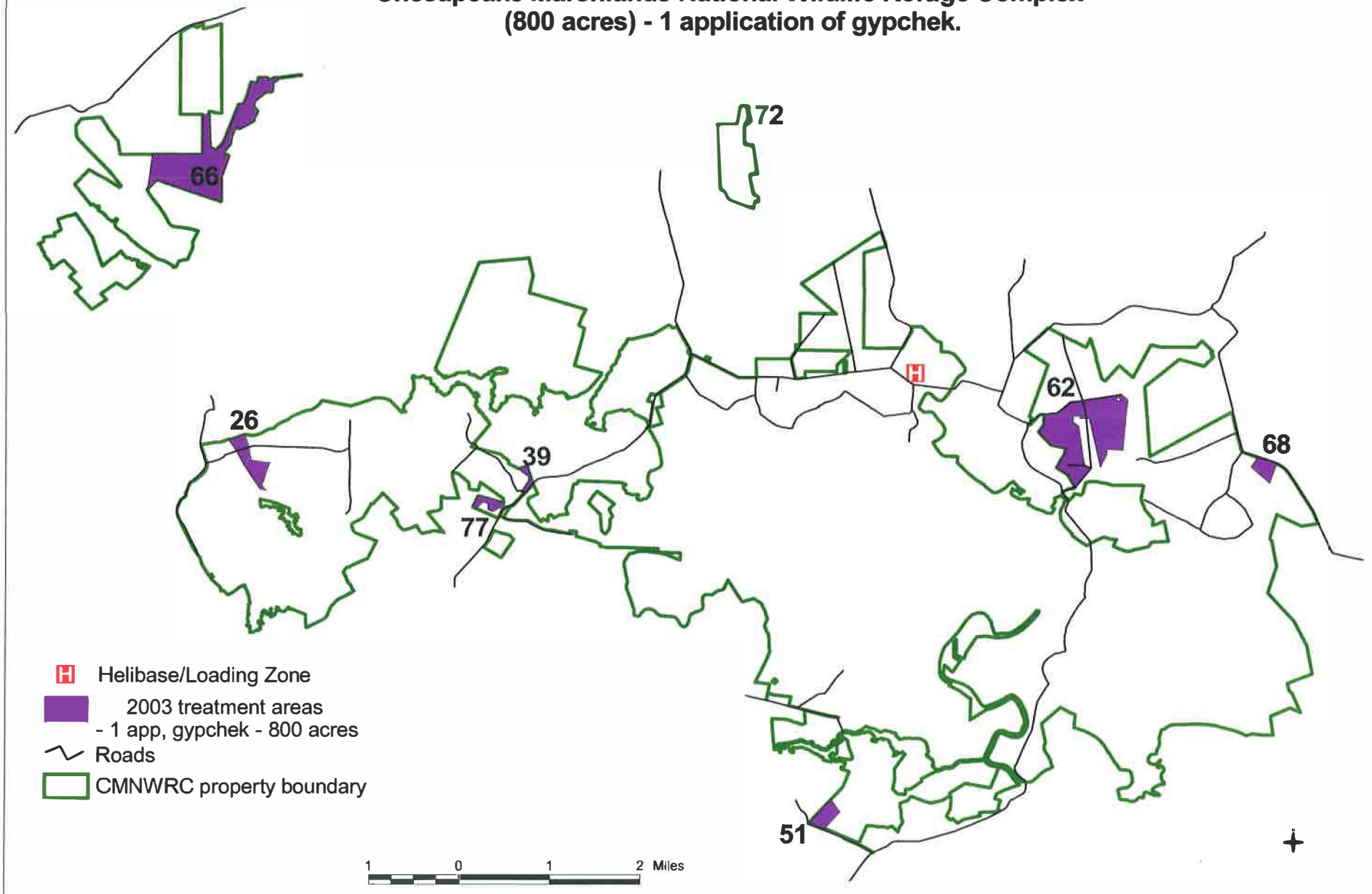
This suppression project was divided into eight treatment areas (Figure 1). The project was staged from the permanent helispot located east of the fire administration building (Figure 1).

Treatment commenced at 0602 on April 29, 2003 and was completed by 0915. A total of 4 sorties were flown for the project. The daily sortie report is enclosed in Appendix B. No accidents or incidents occurred during the project. Treatment timing based on larval and foliage development was good.

No problems were encountered with the spray equipment, ground support equipment and/or personnel provided by the contractor, Helicopter Applicators, Inc. The production rate of 280 acres per hour exceeded the minimum rate required in the contract of 250 acres per hour.

As stated previously, treatment efficacy will be evaluated through a defoliation survey conducted in June and an egg mass survey this fall. The suppression project will be considered successful if the goals of preventing noticeable defoliation on less than 20 percent of the treatment area and reducing residual gypsy moth populations below the treatment threshold on at least 80 percent of the treatment area.

Figure 1.-- 2003 gypsy moth treatment areas at Chesapeake Marshlands National Wildlife Refuge Complex (800 acres) - 1 application of gypchek.



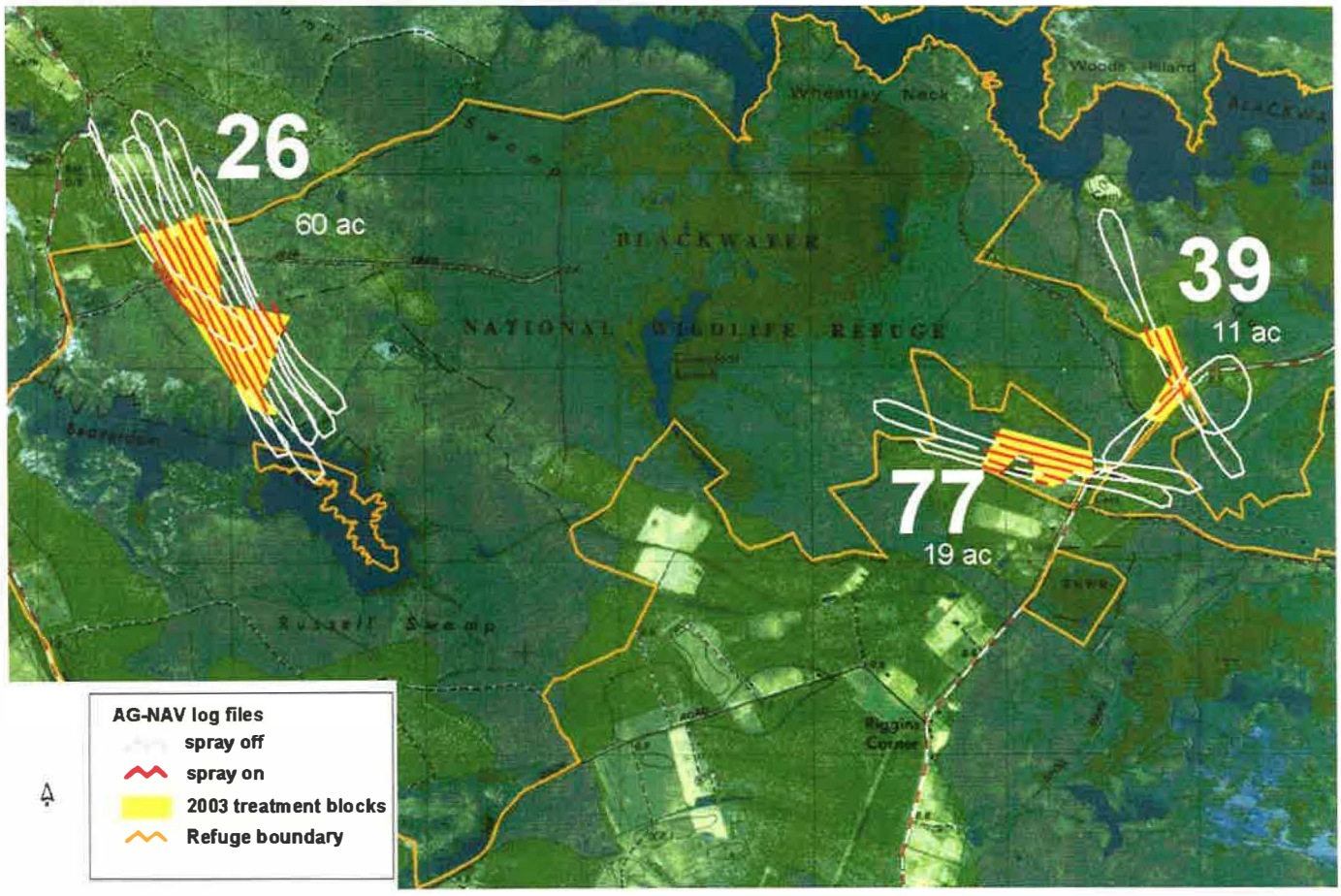
USDA Forest Service, FHP, S&PF, NA, Morgantown, WV

2/03 KDF

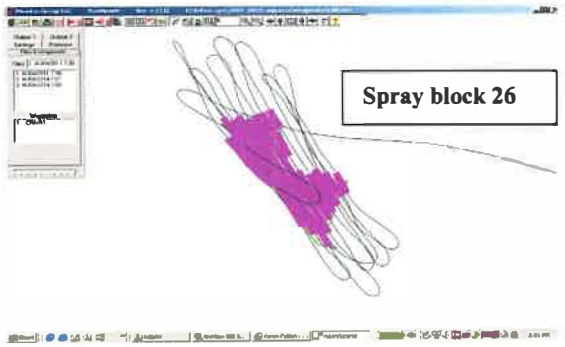
APPENDIX A

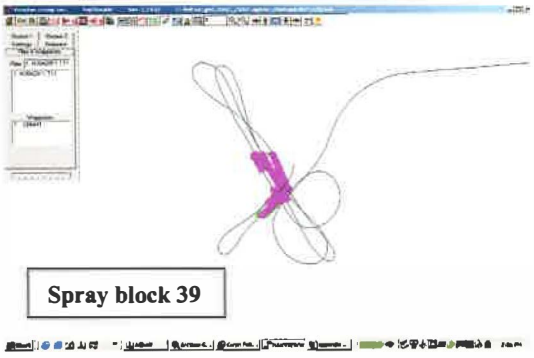
AG-NAV PRINTOUTS

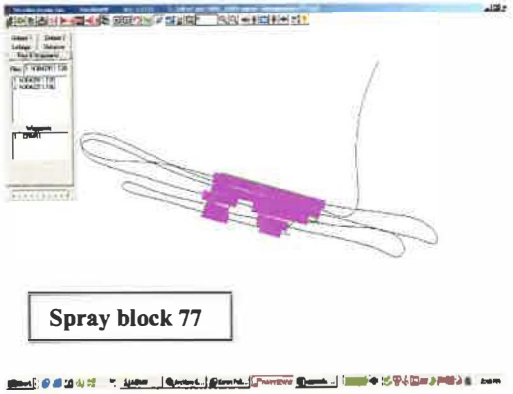
Appendix A.—Chesapeake Marshlands NWR Complex Gypsy Moth Suppression Project, Blocks 26, 39, and 77, April 29, 2003.



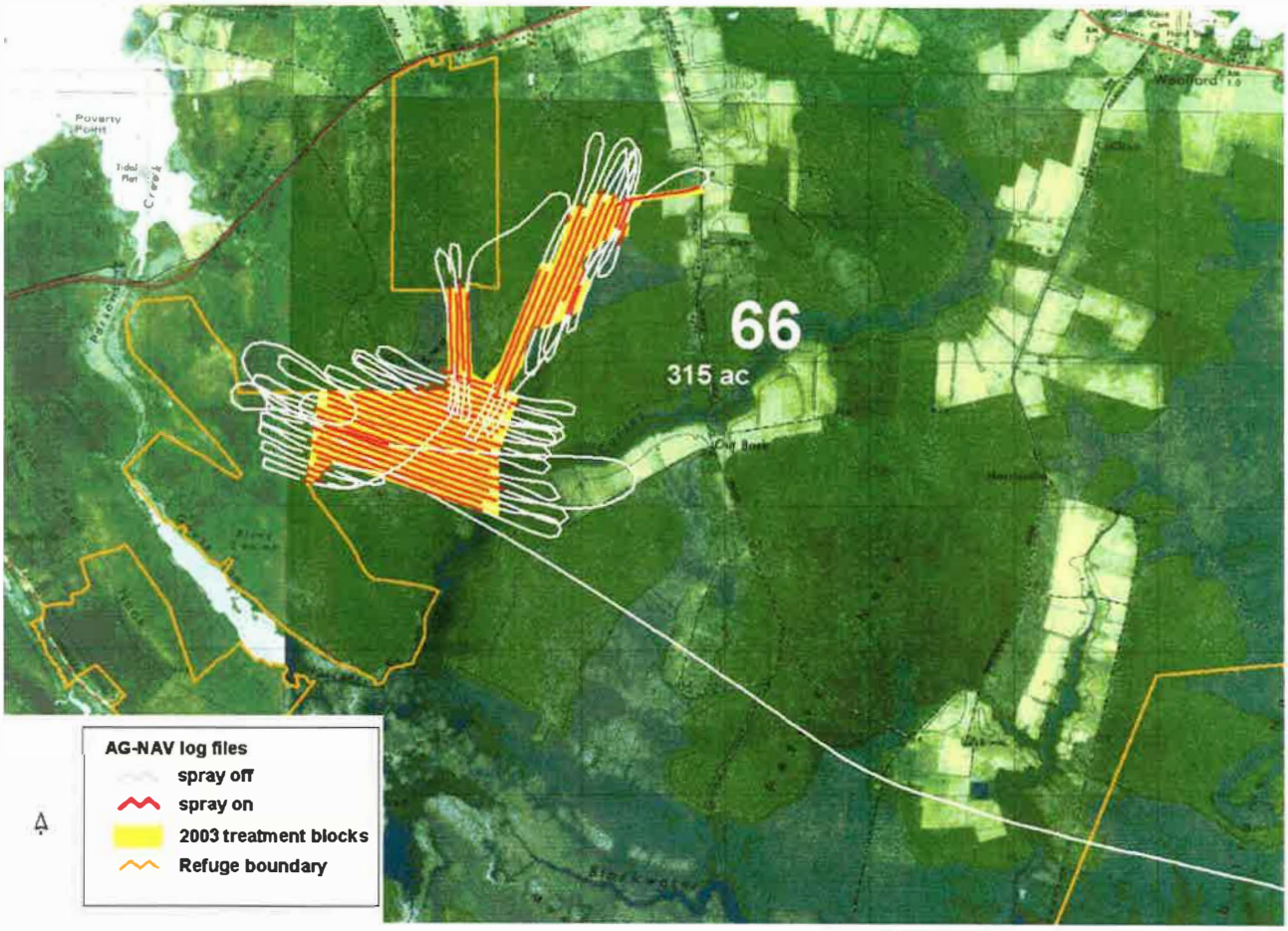
AG-NAV log files



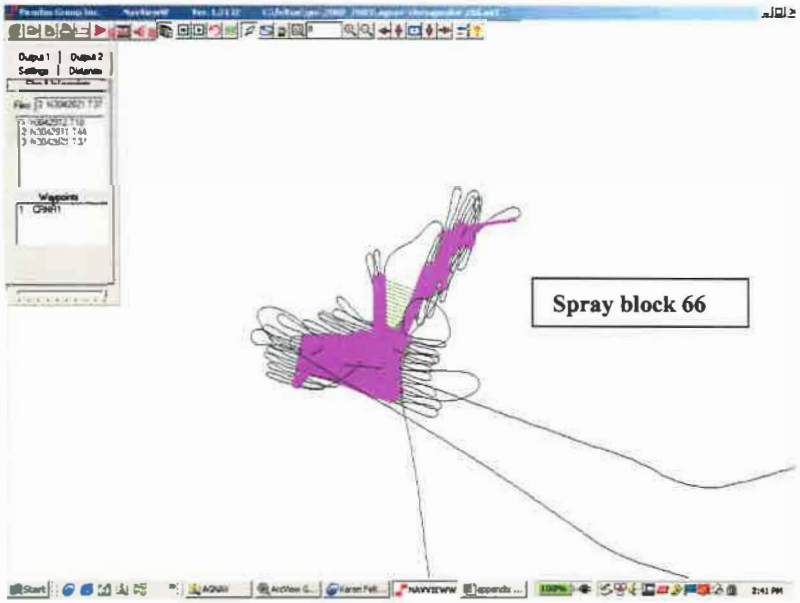




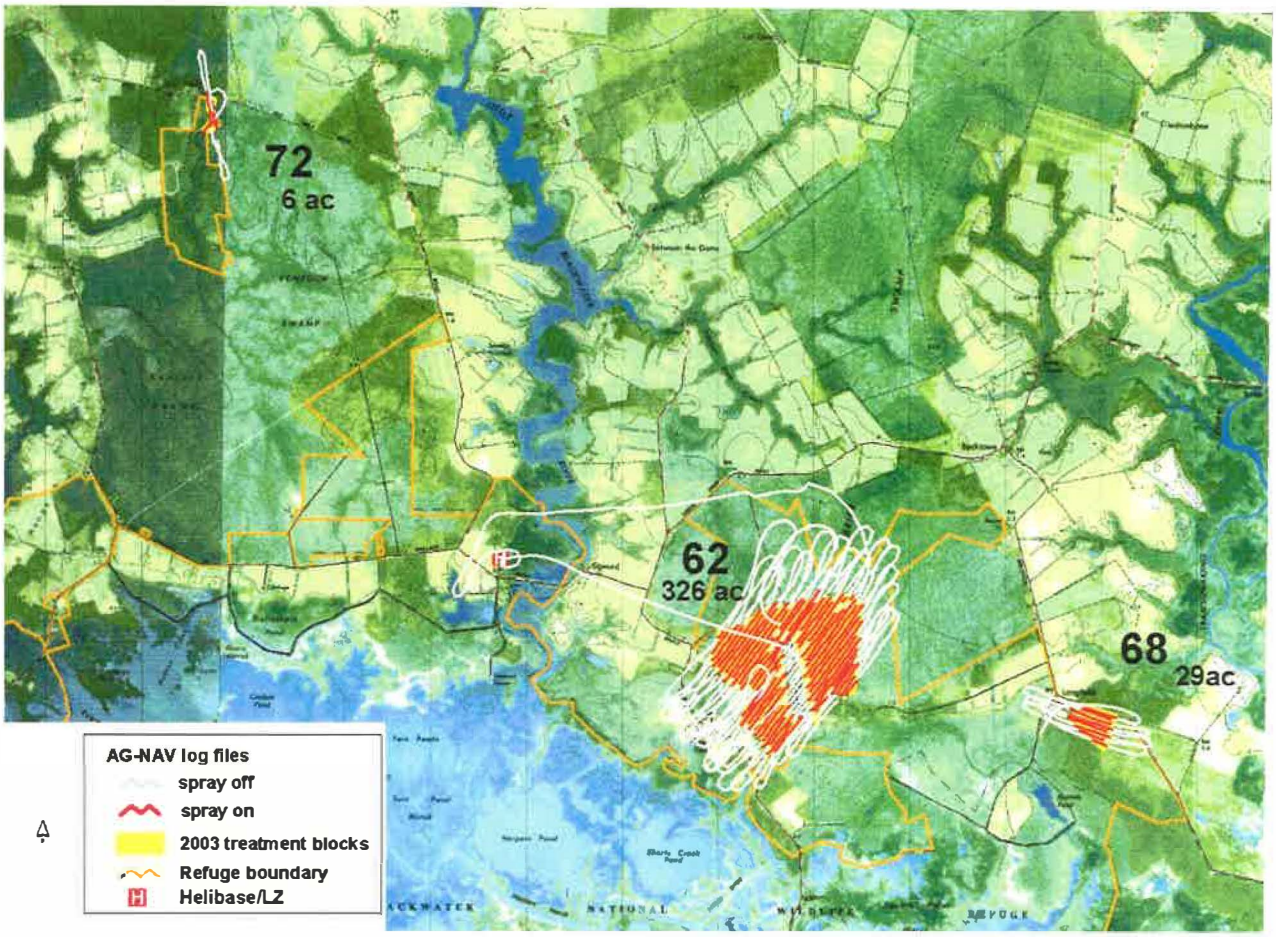
Appendix A.—Chesapeake Marshlands NWR Complex Gypsy Moth Suppression Project, Block 66, April 29, 2003.



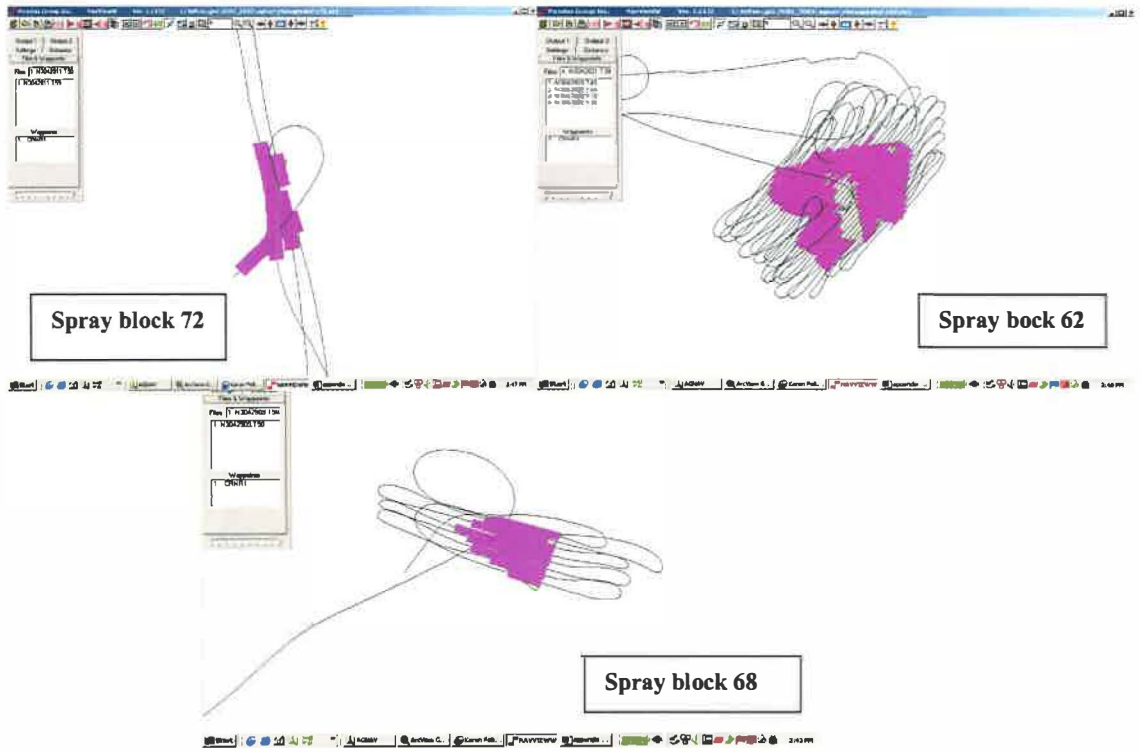
AG-NAV log files



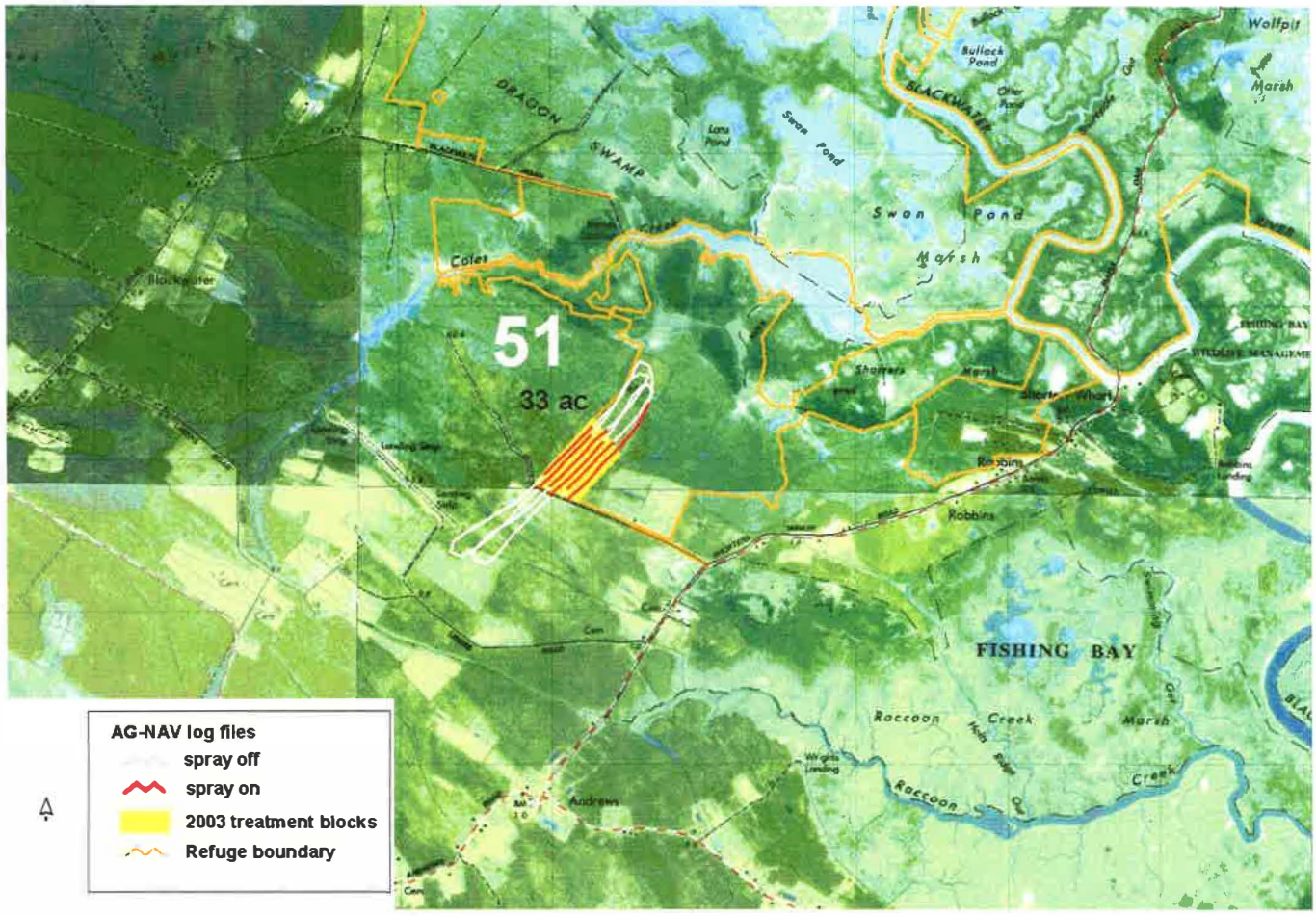
Appendix A.—Chesapeake Marshlands NWR Complex Gypsy Moth Suppression Project, Blocks 72, 62, and 68, April 29, 2003.



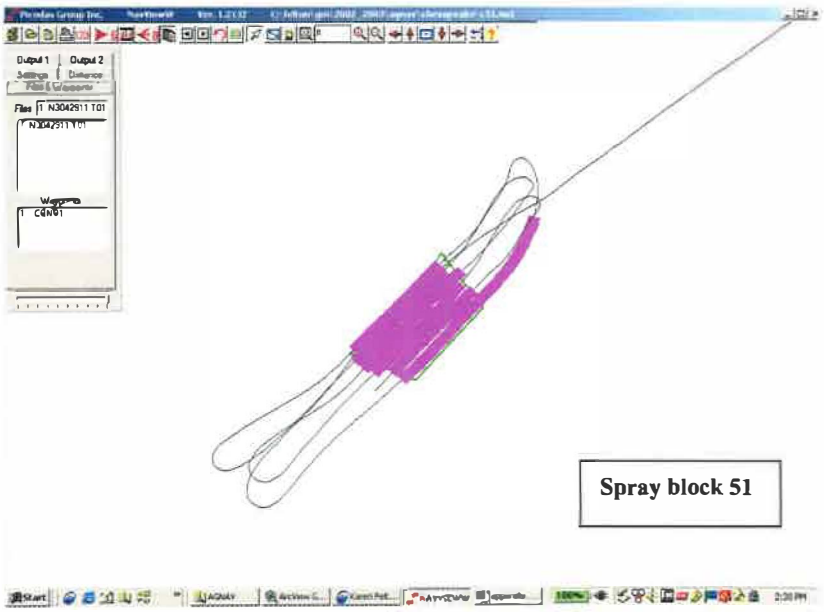
AG-NAV log files



Appendix A.—Chesapeake Marshlands NWR Complex Gypsy Moth Suppression Project, Block 51, April 29, 2003.



AG-NAV log files



APPENDIX B

DAILY SORTIE REPORT